

*medium in Angles of refraction equal to their Angles of reflexion.*

For when Light is reflected by the second surface of thin plates, it goes out afterwards freely at the first surface to make the Rings of Colours which appear by reflexion, and by the freedom of its egress, makes the Colours of these Rings more vivid and strong than those which appear on the other side of the plates by the transmitted Light. The reflected rays are therefore in fits of easy transmission at their egress; which would not always happen, if the intervals of the fits within the plate after reflexion were not equal both in length and number to their intervals before it. And this confirms also the proportions set down in the former Proposition. For if the rays both in going in and out at the first surface be in fits of easy transmission, and the intervals and numbers of those fits between the first and second surface, before and after reflexion, be equal; the distances of the fits of easy transmission from either surface, must be in the same progression after reflexion as before; that is, from the first surface which transmitted them, in the progression of the even numbers 0, 2, 4, 6, 8, &c. and from the second which reflected them, in that of the odd numbers 1, 3, 5, 7, &c. But these two Propositions will become much more evident by the Observations in the following part of this Book.

THE

THE  
SECOND BOOK  
OF  
OPTICKS.

PART IV.

*Observations concerning the Reflexions and Colours of thick transparent polished Plates.*

There is no Glass or Speculum how well soever polished, but, besides the Light which it refracts or reflects regularly, scatters every way irregularly a faint Light, by means of which the polished surface, when illuminated in a dark Room by a beam of the Sun's Light, may be easily seen in all positions of the Eye. There are certain Phenomena of this scattered Light, which when I first observed them, seemed very strange and surprising to me. My Observations were as follows.

OBS.